May 29, 2018

A Practical Guide to Developing Career Pathways

Table of Contents

Introduction 3

Definition and Value Proposition 4

Definition 4

Value Proposition 4

Career Pathways: Founded in Business-Led Industry Sector Partnerships 6

1. Convener initiates the work. 7

2. Convener pulls public partners together to form the initial partnership. 7

3. Collect, aggregate, and review data. 8

4. Engage targeted businesses. 8

5. Reconvene partners to share initial industry input. 8

6. Ongoing, deepening partnership conversations continue. 9

Career Pathways Development Process Map 10

The Career Pathways Development Process in Depth 11

1. Conduct exploratory research about the occupations in the industry. 11

Key Sub-Steps 11

Tools and Resources 11

2. In ongoing conversations, discuss key occupations and pathways with industry partners and with other sector partnership partners. 12

Key Sub-Steps 12

Tools and Resources 13

3. Develop career pathway maps and refine with industry partners. 13

Key Sub-Steps 13

Tools and Resources 14

4. Conduct an education and training gap and oversupply analysis. 16

Key Sub-Steps 16

Tools and Resources 16

5. Begin the education and training development and modification process with public partners. 17
Key Sub-Steps 17
6. Identify and address related resource, policy, and other needs and barriers. 19
Key Sub-Steps 19
Tools and Resources 19
7. Finalize education and training programming design and develop an implementation and assessment plan. 20
Key Sub-Steps 20
Tools and Resources 20
8. Implement education and training programming, evaluate outcomes, and adjust approaches as necessary. 21
Key Sub-Steps 21

Resources 22

Conclusion 23

Appendix A: Career Pathways Self-Assessment 24

Appendix B: Training Gap Analysis Matrix 29

Appendix C: Resource Mapping Template 30

Appendix D: Sample Measures 32

Introduction

This career pathways framework has been developed for local, regional, and state stakeholders in Michigan to assist them in the process of designing and implementing career pathways programs and integrated career pathways systems for both student/job seeker/worker and business/industry customers. The framework discusses career pathways development in the context of, and as a key strategic priority of, industry sector partnerships. It is provided as a tool to assist industry, workforce development, education, and other partners in sector partnerships tackle the concrete steps involved in understanding business-driven career pathways and aligning their education, training, and other programming accordingly, with the goal of developing integrated pathways systems that provide the most value for business partners and the most opportunity for students, job seekers, and workers.

Please note that a career pathways readiness self-assessment tool is provided in Appendix A. Readers are encouraged to review the entire framework and the related resources provided throughout before completing the self-assessment.

Definition and Value Proposition

Definition

Career pathways are connected systems of education and training programs that build upon one another to help a person enter and advance in his/her career in an industry. Pathways are business-defined and business-driven and aligned to the skill needs of targeted industry sectors and are explicitly focused on helping people more easily and quickly enter into and advance in their careers. In many cases, career pathways are an example of a priority industry sector strategy pursued by sector partnerships. Key features of career pathways include:

- They connect and articulate the full range of K-12, adult education, post-secondary, and other education and training, with seamless transitions between "levels" and no "dead ends";
- They have multiple on- and off-ramps to make it easy for individuals to start, stop, and re-enter education and training;
- They embed "stackable" industry-recognized credentials;
- They make work a central context for learning, through on-the-job training, Registered Apprenticeship, work-based internships and mentorships, and other avenues;
- They accelerate educational and career advancement through assessment of prior learning and experience, integrated "basic" education and technical training, and other strategies; and
- They provide integrated supports like coaching and advising and services like childcare and transportation assistance, especially at education and career transition points.

Put simply, career pathways identify the career opportunities in an industry, entry-level to advanced, and show how an individual can grow his/her career in the industry.

Value Proposition

The career pathways model offers significant benefits for business and student/job seeker/worker customers, as well as for public partners in workforce development, education, and related systems. For businesses, the pathways approach provides:

- A process for thinking comprehensively about their expectations for each of their positions and clearly defining both necessary and realistic requirements;
- An opportunity to ensure that education and training are aligned to actual industry and company needs;
- A ready talent pipeline with the right education, skills, and credentials;
- A strategy for increasing employee retention;
- A model for supporting career advancement, succession planning, and back-filling; and
- A process for connecting to new and more diversified talent pools in tight labor markets facing worker shortages.

For students, job seekers, and workers, career pathways offer:

- A career development "roadmap" that takes the mystery and guesswork out of understanding what careers and career progression look like in various industries and what the real requirements are for career advancement;

- A way for customers, particularly those with multiple barriers to employment and advancement, to see themselves in careers and have access to career development information and experience they might not otherwise be exposed to;
- Education and training that is aligned to "real-world" occupational progressions and workforce needs;
- More opportunities to learn on the job;
- Accelerated career advancement opportunities;
- New career entry and advancement opportunities, particularly for individuals with barriers to employment and career development; and
- Integrated supports and career coaching.

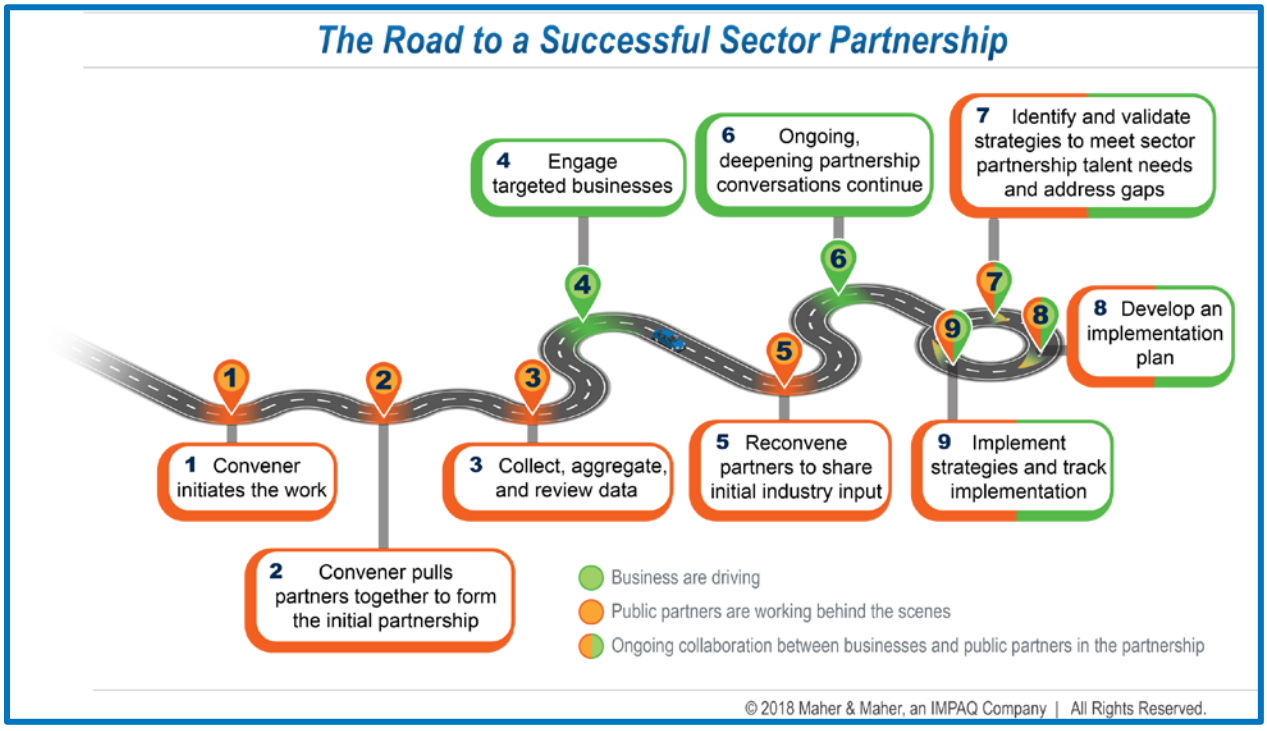
For public partners in the workforce development, education, human services, and related systems, the career pathways model offers:

- A process for better aligning and integrating services and resources;
- Reduced duplication of efforts and investments;
- Improved outcomes for a variety of customer groups;
- Improved access to and engagement of previously-disengaged populations;
- Better connections to business and industry partners and alignment with their workforce needs;
- Stronger relationships with other public partners; and
- Increased opportunities for better service utilization and coordinated service planning and delivery.

Career Pathways: Founded in Business-Led Industry Sector Partnerships

Strong and business-driven industry partnerships are the foundation for career pathways development, and career pathways development is often a key strategy prioritized by businesses in a sector partnership. Through the sector partnership, businesses in a target industry define key pathways in their industry and typical occupational progressions through those pathways, along with associated education and training, competency, and credential requirements at each level.

The infographic below depicts the process for the development of industry sector partnerships and business-driven sector strategies. The initial steps for developing the industry partnership, including identifying the target industry through data and other inputs, engaging business and public partners, and drilling down into businesses' workforce challenges and needs, form the basis of the career pathways development process.



More specifically, the following initial elements in the sector partnership development process provide the roadmap for the later development of career pathways and career pathways programs and systems:

1. Convener initiates the work.

A convener, which may be a person or an organization, initiates the work and the process, once an industry need or needs have been identified. The convener should be a trusted leader that has (or will have) credibility with industry (and other) partners. The convener may be workforce, economic development, or another partner. The impetus for starting this process is often a challenge or pain point. For example, the convener may already know that a particular regional industry is facing significant workforce challenges, or, more broadly, the convener may be concerned that area partners are not active enough in meeting the workforce and other needs of key industries in the region. In other cases, business may approach the convener with a problem for which it needs assistance. However the needs are surfaced, it is important to note that the sector partnership development process is begun not "just because," but rather in response to challenges, needs, or barriers that have been identified by industry partners or otherwise surfaced. Note the initial convener may not lead throughout the entire process.

The convener gathers and analyzes available data to understand the regional industry landscape and begin to identify potential trends and needs that may be across industries region-wide, or in a particular industry of focus. The data reviewed may be both quantitative and qualitative or anecdotal. The goal of this initial data review is to understand the key industries in the region; factors such as employment size, growth, and concentration; critical occupations in the industries; and industry trends and potential pain points.

2. Convener pulls public partners together to form the initial partnership.

Partners should include not just workforce partners, but also the full spectrum of education partners, K-12 to post-secondary, as well as economic development, which typically already has relationships with current businesses and may have access to different funding streams, and others. The convener determines who else needs to be at the table and engages them to leverage all resources to meet the needs of businesses in the targeted sector. Conveners should:

- Leverage and integrate with existing regional industry partnerships if they already exist; don't re-create the wheel.
- Work with partners to establish the initial vision and confirm partners' willingness to align their efforts and put their resources on the table to support joint efforts. This commitment can be formalized through the development of a charter that is initially signed by public partners, followed by business partner signatures after they have come to the table.
- Work with partners to come to agreement on how they will interact with business. Ideally, the partnership will establish the convener as the "face" of the public partnership that meets directly with business and communicates industry needs back to the other public partners.
- Collaboratively develop initial measures for the desired outcomes of the sector work early, to be validated and refined with business partners shortly. Measures regarding meeting the needs of the targeted industry and workers as well as system change should be identified. A system for tracking and reporting progress toward meeting those goals is also needed to ensure accountability and transparency.

3. Collect, aggregate, and review data.

The convener asks partners to bring the data they have to the table for analysis and discussion. The partnership may consider the formation of a data team with a representative from each partner to present their own data and bring the group to consensus regarding what all of the data sources mean when viewed collectively. This stage of data review should include a more in-depth analysis of key occupations across the industry, current openings, projected growth and contraction, wage levels, and other factors. The goal is to develop a nuanced understanding of the current and projected state of the industry and its key workforce dynamics and potential needs. Keep in mind, however, that the data is only one part of the industry "story," not the final stage of understanding the industry and its current and projected landscape. Industry partners will – and should – add their "on the ground" perspective around the data, which may well change or refine future directions.

Once the data is aggregated and reviewed, the team should make it presentation-ready for discussion with businesses. Note that "presentation-ready" is not a "data dump"; it is various data connected to tell a story that is specific to the industry. Determine the initial target industry based on a variety of factors, such as data, available resources, needs, low-hanging fruit opportunities, which industry is already a champion, which industries are asking for help, etc.

4. Engage targeted businesses.

The convener – or another partner if better-positioned – engages businesses in the target industry for initial conversations on workforce trends, challenges, and needs. If possible, the convener seeks to leverage an identified business champion to engage other businesses and bring them to the table to refine and validate data and be part of the partnership and process. The convener or business champion needs to clearly articulate the value proposition, goals, level of commitment, and return on investment for the businesses. This stage is the beginning of ongoing conversations and relationship-building with industry partners, not a "one-off" discussion. Focus initially on what business partners want to share regarding their workforce pain points and needs. The goal at the outset is listening, rather than formalizing commitments.

In later conversations, the partnership validates and refines initial outcome measures and accountability/reporting plans with industry partners. If a charter is in place, it should be updated with this information and signatures of the industry partners.

5. Reconvene partners to share initial industry input.

Typically, it is not ideal to have all partners at the table and in the room with business. It is critical to safeguard business' time and commitment by ensuring that communication is streamlined and strategic. They do not need to see the "sausage-making" that happens when public partners work to align their policies, programs, and resources, but rather, a single unified message from the partnership. As noted in Step 2, "Convener pulls public partners together to form the initial partnership," there may be a need to establish a "back-office" process for communicating industry input with all public partners, especially as industry relationship deepens. Note also that industry input and needs may change or expand the partners needed at the table; revisit, refine as necessary, and note that defining and re-confirming partners' commitments is an ongoing process.

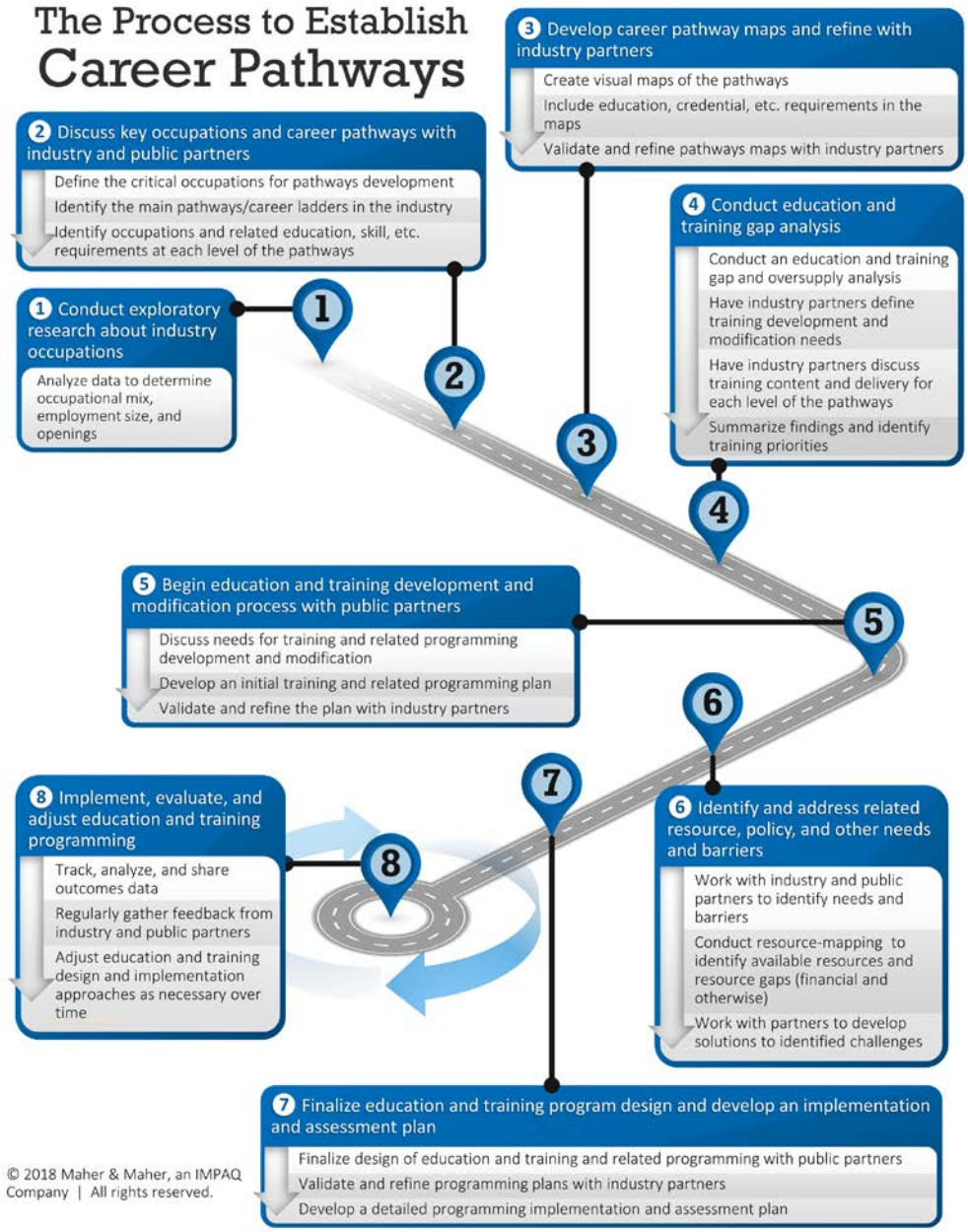
6. Ongoing, deepening partnership conversations continue.

The partnership digs further into data analysis, specific workforce gaps and needs, career pathways, etc. by engaging in two key activities with industry and other partners:

- Industry talent needs assessment with business partners; and
- SWOT (strengths, weaknesses, opportunities, and threats) and regional capacity and gap analyses with public partners. This is where the career pathways development process typically starts.
- It is from this stage of the industry sector partnership development process that the work of career pathways development most often begins. Part III below provides a visual depiction, in the form of a process map, of the career pathways development process. Part IV, "The Career Pathways Development Process in Depth," offers a detailed exploration of the steps depicted in the process map.

Career Pathways Development Process Map

The career pathways development process, beginning with industry occupational research, and proceeding through implementation, evaluation, and adjustment of education, training, and related programming, is shown in the process map below.



The Career Pathways Development Process in Depth

This section of the career pathways framework explores the process for developing career pathways in depth, amplifying the process map provided above. For each step in the career pathways development process, this section includes:

- Key sub-steps;
- Practical guidance and tips; and
- As appropriate, relevant tools or resources like templates, sample questions, online resources, etc.

1. Conduct exploratory research about the occupations in the industry.

Key Sub-Steps

1. Analyze data to get an initial sense of the industry's occupational mix and employment size and current and projected openings in industry occupations: If research into the occupations in the target industry has not yet been conducted, it should take place now. Partners should explore available data sources (for examples, from the U.S. Department of Labor's Bureau of Labor Statistics, state labor market information sites, data collected by partners in the sector partnership, economic development sources, and industry association sources, among others) to develop a foundational understanding of the industry's occupational landscape.

♦ Practical Guidance and Tips ♦

The goal at this stage of the process is to conduct initial occupational research and gain a foundational understanding of the occupational mix and employment landscape in the target industry. Later stages in the process provide an opportunity for a deeper dive into occupational information and occupational progressions in pathways, working with business partners.

Tools and Resources

- Bureau of Labor Statistics: https://www.bls.gov/
- Michigan Bureau of Labor Market Information and Strategic Initiatives: http://milmi.org/

2. In ongoing conversations, discuss key occupations and pathways with industry partners and with other sector partnership partners.

Key Sub-Steps

1. With industry partners, define the critical occupations that should be considered in pathway development (based on industry share, demand level, difficulty filling, industry or technology changes, anticipated future job needs, and other factors important to the industry).
2. Have business partners identify the main pathways in the industry, i.e. the main "ladders" up which workers typically advance. For example, in manufacturing, two key pathways might be (1) maintenance, installation, and repair and (2) production and process development. Depending upon the industry and the businesses engaged, priority pathways may be even more focused, e.g. within the manufacturing production and process development pathway, a sub-pathway for materials handling and packaging.
3. Identify and organize the key occupations in each main pathway, entry-level to advanced, and the education, training, experience, credentials, and other qualifications individuals need to enter into each level of the pathway. In many cases, business partners will be able to provide this information; in others, businesses may be better positioned to provider higher-level or more anecdotal input, which will require more research, both quantitative and qualitative, and discussion among public partners.

♦ Practical Guidance and Tips ♦

This aspect of the pathways development process is not a single conversation with business partners, but rather a series of discussions to support the development of a sustained and deepening relationship with businesses in the industry.

It is critical to be strategic about facilitating the conversation with businesses and ensuring that they – rather than public partners – drive the conversation. If public partners are invited to attend discussions with businesses about key occupations and pathways in the industry, they should participate in "listening mode," asking questions only to clarify their understanding of industry-defined pathways, and not offering their perspectives on pathways or their existing programs.

Some industry sector partnerships prefer to have the partnership convener be the only non-business participant in the room for all industry-driven discussions. In these cases, the convener is then responsible for conveying all industry input back to the public members of the partnerships in a regular and ongoing fashion.

Tools and Resources

Some sample questions that can support discussions with businesses include:

- What occupations are critical in your industry and/or company, based on prevalence, centrality to your company's mission, or other factors?
- What positions are most difficult for you to fill or keep filled?
- What near- or longer-term changes do you anticipate to occupations in your industry, based upon evolving technology or other factors?
- How do people typically enter your industry? Where are the lower-, middle-, and higher-level entry points for people based upon their skill levels?
- How do people typically advance in your company or industry? What are the main career progression "ladders"?
- What education/training, skills, and credentials are required at each occupational level of typical pathways in your industry?

3. Develop career pathway maps and refine with industry partners.

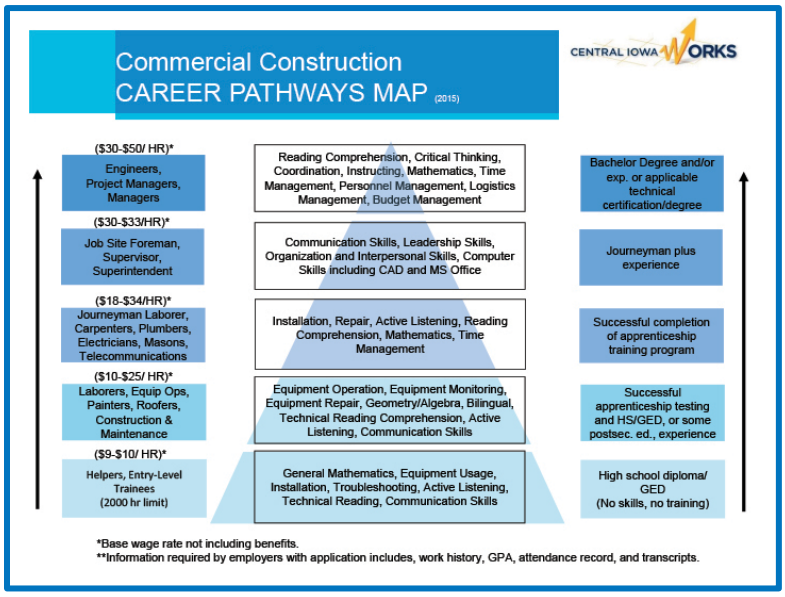
Key Sub-Steps

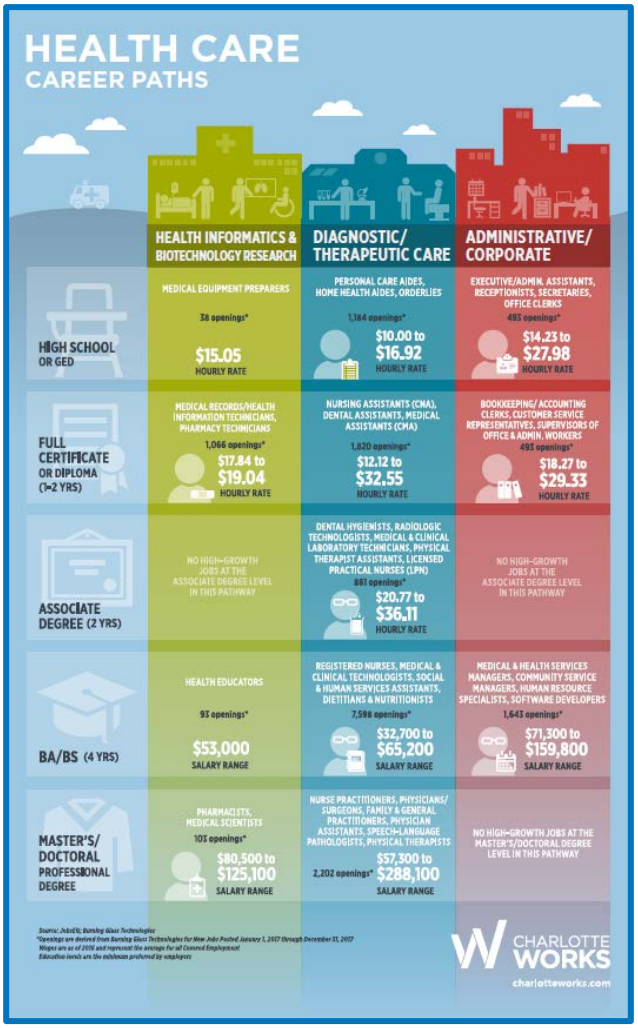
1. Based upon industry partners' input, create visual maps of the occupational progressions, entry-level to advanced, in each of the identified pathways.
2. Include the average education, training, experience, skill levels, and credentials required at each level of the pathway. Maps should also include the ranges for annual salary or hourly wage rates.
3. Share draft pathway maps with business partners for their feedback, refine as necessary, and finalize.

♦ Practical Guidance and Tips ♦

Creating visual maps of career pathways serves an important purpose. The maps present an aggregated view of businesses' input on occupational progressions in their industries, as well as the associated education, training, and other elements required for individuals to advance in their careers. As such, pathway maps are useful tools for students, job seekers, and employers, as well as for teachers and career counselors. Pathway maps also provide a helpful foundation for subsequent process steps that focus on conducting an education and training gap analysis and beginning modification and development of education and training programming.

Tools and Resources





Career Pathways Louisville MSA

IT | Business | Healthcare | Manufacturing | Logistics | Food & Beverage | Construction | Main Data File

Information Technology

736 TOTAL JOB POSTINGS	INFORMATION SUPPORT/ SERVICES	PROGRAMMING AND SOFTWARE DEV	NETWORK SYSTEMS	WEB AND DIGITAL COMMUNICATIONS
BA/BS 549 JOB POSTINGS in the last 3 months	Information Technology Managers; Systems Analysts; Operations Analysts 78 JOB POSTINGS in the last 3 months $ 32.22 to $ 51.22 HOURLY RATE	Software Engineers, Systems Engineers 247 JOB POSTINGS in the last 3 months $ 32.83 to $ 48.76 HOURLY RATE	Network Specialists; Database Administrators; Information Security Analysts; Systems Administrators 186 JOB POSTINGS in the last 3 months $ 25.33 to $ 45.86 HOURLY RATE	Computer Programmers; Graphic Designers 38 JOB POSTINGS in the last 3 months $ 23.06 to $ 35.62 HOURLY RATE
Associate Degree (2 yrs) or **Some College,** no degree 187 JOB POSTINGS in the last 3 months	Technical Support Analysts; Information Technology Support Technicians 136 JOB POSTINGS in the last 3 months $ 14.44 to $ 24.08 HOURLY RATE	No high-demand jobs at this level within the pathway	Computer Network Support Specialists 7 JOB POSTINGS in the last 3 months $ 21.97 to $ 33.36 HOURLY RATE	Web Developers 44 JOB POSTINGS in the last 3 months $ 19.25 to $ 33.49 HOURLY RATE
Certificate (1-2 yrs)	No high-demand jobs at this level within the pathway	No high-demand jobs at this level within the pathway	No high-demand jobs at this level within the pathway	No high-demand jobs at this level within the pathway
High School or GED	No high-demand jobs at this level within the pathway	No high-demand jobs at this level within the pathway	No high-demand jobs at this level within the pathway	No high-demand jobs at this level within the pathway

4. Conduct an education and training gap and oversupply analysis.

Key Sub-Steps

1. Conduct an education and training gap and oversupply analysis to identify areas where the region may be under- and over-producing talent (in terms of program graduates and completers) relative to actual occupational demand, for each occupation in identified pathways. Typically, this exercise involves comparing annual education program completer data and occupational training program completer data (which may need to be provided by programs or their administrative entities) with annual projected occupational openings data. Much completer data can be found through the National Center for Education Statistics (NCES). Comparing program completion and occupational demand data enables partners to see where they may need to consider developing new education and training programs to address gaps, and where they may be producing a surplus of talent in relation to available jobs.
2. Work with industry partners to define which existing training approaches are working well, which are not meeting industry needs, and where training program/model development or modification needs to take place.
3. Meet with industry partners to discuss education and training needs for each level of the pathways, including desired training content as well as desired training modalities (e.g. classroom-based vs. on-the-job, etc.) and training length. Also discuss with industry partners additional training requirements, such as the use of specialized equipment or software and training instructor competencies related to technical knowledge and industry expertise.
4. Summarize findings from the gap and oversupply analysis and industry partner discussions and identify priorities for developing new training or improving existing training for targeted pathways.

♦ Practical Guidance and Tips ♦

At this stage in the process, it is important for business partners, rather than public partners, to be driving the conversation. While discussions between public and private sector partners are critical to the pathways development process, it is important that industry partners' input form the foundation for later education and training programming design and development efforts.

Tools and Resources

The Training Gap Analysis matrix in Appendix B can be used to capture the results of the industry partner discussions and support identification of priorities for developing or improving training.

5. Begin the education and training development and modification process with public partners.

Key Sub-Steps

1. Using the findings from the education and training gap analysis process, discuss needs related to new program/model development and modification of existing programs and models with public partners. Also consider related needs and programming, such as equipment needs for industry-driven training, career awareness and exploration activities, and supportive services, which may be required for successful implementation of pathways programs and the broader pathways system.
2. Develop an initial plan that outlines the education, training, and related programming that partners will pursue, including the specific training programs and models that need to be developed or modified based on industry input and priorities.
3. Once the plan has been developed, validate the direction of education and training design with business partners and refine as necessary before proceeding.

♦ Practical Guidance and Tips ♦

As public partners begin discussions around education and training program design and modification, it is critical that businesses' assessed needs – not existing education and training models and programs –drive the conversation and remain at the forefront. Education and training providers need to be willing to "stop, start, and modify" programs based upon industry input and needs. This can be a challenging conversation and there may be difficulties in the process; public partners need to be open to change and willing to think creatively about business-driven solutions.

As public partners work through the initial education and training development and modification process, they should prioritize the following elements:

- Work-based training: In many cases, industry partners find job-based training, like Registered Apprenticeship, on-the-job training, internships, and other models most effective in terms of workforce competency development. For job seekers and workers, work-based training models also typically offer the benefit of earning wages while in training. Focus on models that make work the central context for education and training.
- Integrated occupational and "basic" skills development: Rather than having individuals with foundational skill deficiencies first complete basic skills training in reading, math, or other areas before beginning occupational skills training, integrate basic skills development into occupational training programs. This accelerates individuals' entry into and advancement along pathways. A team-teaching model, where a foundational skills development instructor and a technical training instructor work alongside one another with students, can be helpful.
- Flexible, accelerated, and modular training delivery models: Both job seekers/workers and businesses benefit from having access to education and training that enable them to build their skills and proficiency as quickly as possible. Offer flexible scheduling and online options, as appropriate, to accommodate individuals who may need to participate in training during non-traditional hours. Review existing training models for opportunities to "chunk" key segments into smaller, stackable modules.
- Integration of industry-recognized credentials: Work with business partners to identify the credentials that they value and that have the most value in terms of documenting competency in their industry. In many cases, these credentials may not be traditional two- or four-year degrees. Align training content to these credentials and integrate industry-recognized credential attainment in programming.
- Integrated wrap-around services: Progressing along career pathways can be challenging for individuals, particularly if they have multiple barriers to employment and advancement, are juggling family responsibilities, etc. Ensure that regular education and career coaching and advising is provided as part of training design, particularly at transition points like starting a new training module or new position. Supportive services like child care, transportation assistance, and assistance with things like training materials and uniforms, should also be an integrated component of pathways programming.

6. Identify and address related resource, policy, and other needs and barriers.

Key Sub-Steps

1. Once initial education and training design work is complete, work with business and public partners to identify resource, policy, or other needs that must be addressed to finalize design and implement and operate programming.
2. Conduct resource-mapping to identify available resources (financial and otherwise) to support the operation of education, training, and related programming, as well as potential resource gaps.
3. Identify any policy or other barriers that are challenges to implementation and operations. For example, there may be challenges or needs related to articulation between programs, licensing requirements, credit transfer, credit for prior learning, etc. Work with partners to resolve these barriers or develop "work-around" solutions as necessary.

♦ Practical Guidance and Tips ♦

Keep business and student/job seeker/worker customers at the center of efforts to align policies, resources, and other areas to pathways programming and pathways system development work.

In considering how to address resource needs and any resource challenges, start with the desired pathways system and pathways programming, not with existing funding streams and their attendant requirements and limitations. For each component of pathways programming, consider how various resources from partners can be leveraged and braided. For example, one funding stream might be tapped to support career coaching, another for funding training, another for purchasing training tools and equipment, and another for providing transportation assistance. Be creative about "knitting" various funding streams and other resources together to meet individual, business, and system needs.

Resource-mapping can be a valuable exercise to support this aspect of the process. In mapping resources, consider all potential assets – funding, but also staff and staff expertise, equipment, space, etc. The resource-mapping activity is also valuable in identifying potential areas of resource duplication (as well as gaps) and opportunities for more strategic investment of resources.

Tools and Resources

The resource mapping template in Appendix C can be used to document available resources to support the development and operation of education, training, and related programming for career pathway, as well as potential resource gaps.

7. Finalize education and training programming design and develop an implementation and assessment plan.

Key Sub-Steps

1. Work with public partners to finalize design of education and training and related programming.
2. Present plans to industry partners in the sector partnership for validation and any necessary refinement.
3. Develop a detailed implementation and assessment plan that includes:
    a. Clear roles and responsibilities for partners, including both business and public partners;
    b. Timelines;
    c. Partners' resource commitments, financial and otherwise;
    d. Desired system, program, and customer outcomes;
    e. Plans for data collection and reporting;
    f. Plans for gathering industry input at regular intervals to support necessary adjustments and continuous improvement; and
    g. Plans for providing ongoing pathways training for front-line staff serving both students/job seekers/workers and business customers to ensure operationalization at the ground level.

♦ Practical Guidance and Tips ♦

A detailed plan for implementation and ongoing assessment of education, training, and other programming is essential for tracking and reporting on the operationalization of pathways efforts; holding all partners accountable; and ensuring that efforts are evaluated, improved, and sustained over time.

Tools and Resources

The sample measures in Appendix D can be used to set performance targets, track implementation and outcomes.

8. Implement education and training programming, evaluate outcomes, and adjust approaches as necessary.

Key Sub-Steps

1. Track, analyze, and share outcomes data related to system, program, and customer impacts.
2. Meet regularly with business and public partners in the partnership to discuss implementation and gather feedback on what's working and what needs to be changed.
3. Adjust education and training design and implementation approaches as necessary to ensure alignment with industry's assessed needs and needs as they change over time and outcomes for business and student/job seeker/worker customers.

♦ Practical Guidance and Tips ♦

A willingness to be transparent about reporting on both quantitative and qualitative outcomes is critical, and customer input is essential to assessing progress against target outcomes. Once implementation of programming begins, it is important to celebrate what's working, but just as important, to be willing to acknowledge what is not and adjust as necessary.

Resources

- Michigan Career Pathways Alliance
- Michigan Bureau of Labor Market Information and Strategic Initiatives
- Michigan Workforce Development Agency Resources for Industry and Business
- Michigan Workforce Development Agency Education and Training Resources
- Michigan Workforce Development Agency Resources for Workforce Professionals
- Workforce GPS Career Pathway Community of Practice
- USDOL-ETA Career Pathways Toolkit
- USDOL-ETA Competency Model and Career Ladder Resources ETA Career Pathway Tools
- Alliance for Quality Career Pathways – CLASP
- Funding Career Pathways: A Federal Funding Toolkit for State and Local/Regional Career Pathway Partnerships – CLASP
- A Framework for Measuring Career Pathways Innovation – CLASP
- National Skills Coalition Integrated Education and Training Policy Toolkit
- Perkins Collaborative Resource Network (PCRN) Career Pathways Systems Resources
- U.S. Department of Education OCTAE/LINCS Career Pathways Resources
- National Career Pathways Network
- Jobs for the Future Career Pathways Resources
- HHS Catalog of Career Pathways Toolkits

Conclusion

As discussed in Part III of this framework, career pathways are often a critical priority of the work of industry sector partnerships. Business partners should drive the development of career pathways programming and systems, and their ongoing input is essential to operations and enhancements over time, particularly as industries evolve and their workforce needs change over time. As such, it is important to ensure that career pathways partners' work remains grounded in the context of the overarching industry sector partnership and sector strategy work.

Appendix A: Career Pathways Self-Assessment

Career Pathways

Self-Assessment

Description: this self-assessment is designed around the key elements of career pathways. It is intended to help partnerships drill down deep into how integrated and effective their career pathways development efforts are to date and identify next steps going forward.

Introduction

Career pathways are a series of connected education and training programs and support services that take shape in regional economies. Career pathways enable individuals to secure employment within a specific industry or occupational sector and to advance over time to successively higher levels of education or employment in that sector. Each step on a career pathway is designed explicitly to prepare for the next level of employment and education.

Career pathways are really systems change efforts—completely changing the way that education and training systems support workers and respond to business customers. They can take many years to implement fully.

Directions:

1. Work as a partnership to complete the self-assessment. For each of the factors in the sections that follow, select a rating from 1-5 that reflects your/your team's perspective on where your region stands. Each team member may choose to complete the assessment individually and then convene to compare answers. Or, you may decide to complete it as a team together.
2. Leave plenty of time to engage in an honest discussion about each *indicator* (bulleted statements on the left), and to provide thoughtful strategies for addressing challenges (the box on the right to write your notes).

Forming Cross-Agency Partnerships

1. Have you engaged agency partners (e.g. workforce, K-12, adult education, economic development, etc.) with the explicit intention of building career pathway(s)?
2. Do you have a vision, mission, and set of goals specific to career pathway development?
3. Do all these partners know their roles in terms of designing and executing career pathways?
4. With partners, have you conducted exploratory research about the occupation/industry you are targeting (includes getting a sense of the industry's occupational mix and employment size and current/projected openings?

Notes & Overall Rating *(see key below)*

① ② ③ ④ ⑤ Where/How could this be strengthened?

RATE: EXPLAIN HERE:

Building Industry Sector Partnerships & Engaging Businesses

1. Have you verified, through employers within your target industry(ies), their key occupations, skill competencies and training needs? Is there consensus on this from all regional partners?

2. Do you have an engaged group of employers (in the same targeted industry) at the table ready and willing to build or inform career pathways?

3. Have you identified, on paper and with your sector business partners, the natural progression/mobility of workers in your targeted industries/occupations (i.e. career ladders/lattices)?

Notes & Overall Rating *(see key below)*

① ② ③ ④ ⑤ Where/How could this be strengthened?

RATE: EXPLAIN HERE:

Designing Education and Training Programs

1. Have you identified target populations for your career pathway work and do you know how these populations typically enter into a career pathway (e.g. through school, work, other)?
2. Have you developed/modified a competency model(s) for your targeted industry/occupations and have employers validated this? This includes: formally defining the skill/knowledge requirements of a particular cluster of jobs (e.g. mechatronics, nursing); identifying key occupations in each main pathway, entry-level to advanced; and the education, training, experience, credentials needed to move up each pathway level
3. Do you know your region's education and training resource capability to build pathways that provide the skills and competencies that employers want? Includes a regional "asset map" or gap analysis to determine education and training areas where the region may be under- or over-producing talent relative to actual occupational demand
4. Have you developed/modified programs to ensure they meet the right industry-recognized credentials?
5. Have you included any of the following in your design work?
   - Integrated, accelerated or contextualized learning strategies (so that students can quickly and successfully get from education to a career)
   - Flexible delivery methods (to suit workers/students with different needs)
   - Comprehensive case management services
   - Work-based learning (internships, apprenticeships)

Notes & Overall Rating *(see key below)*

① ② ③ ④ ⑤ Where/How could this be strengthened?

RATE: EXPLAIN HERE:

Continuous Improvement: Identifying Funding, Aligning Policies, and Measuring

1. Have you conducted resource-mapping to identify available resources (financial and otherwise) to support the operation of education, training, and related programming, as well as potential resource gaps?

2. Have you identified any policy or other barriers that are challenges to implementation and operations (e.g. around articulation between programs, licensing requirements, credit transfer, credit for prior learning, etc.); and worked with partners to resolve these barriers or develop "work-around" solutions as necessary?

3. Assuming your career pathway implementation efforts are sustained over time (to continue to meet employer demands) it is likely that costs will incur beyond what formula funds can support. Have you developed a long-term plan with partners to ensure your career pathway work sustains?

4. Have you figured out how to measure your career pathways work? Do you have a process to collect, store, track, share, and analyze data? Do you have a process for periodically looking at this data, with partners, to determine shifts in strategies?

Notes & Overall Rating *(see key below)*

① ② ③ ④ ⑤ Where/How could this be strengthened?

RATE: EXPLAIN HERE:

Appendix B: Training Gap Analysis Matrix

Industry:						
Career Pathway:						
Key Occupations in the Pathway	**Key Training Content (competency areas)**	**Preferred Training Delivery Model(s)**	**Preferred Training Length**	**Required Credentials**	**Associated Equipment or Software Requirements**	**Other Notes (instructor competencies, etc.)**
{higher-skill occupations}						
{middle-skill occupations}						
{lower-skill occupations}						

Appendix C: Resource Mapping Template

This resource-mapping template is provided to assist partners in identifying available resources to support the development and operation of education, training, and related programming for career pathway, as well as potential resource gaps.

Career Pathways Development: Resource-Mapping Template							
Organization Name	**Key Programs**	**Primary Services**	**Service Restrictions**	**Targeted Populations**	**Related Resources: Space, Staff, Training Equipment, etc.**	**Other Notes**	**Contact Information**
Secondary Career and Technical Education Partners							
Post-Secondary Education Partners							
Workforce Development Partners (WIOA partners, training providers, etc.)							

Career Pathways Development: Resource-Mapping Template							
Organization Name	**Key Programs**	**Primary Services**	**Service Restrictions**	**Targeted Populations**	**Related Resources: Space, Staff, Training Equipment, etc.**	**Other Notes**	**Contact Information**
Community-Based/Human Services Partners							
Industry Partners							
Other Partners							

Appendix D: Sample Measures

Career Pathways Development: Sample Measures

Implementation Measures
Employer participation
Mapped competencies and career pathways
System for sharing data developed
Partner satisfaction
Outputs (typically benefit employer and worker)
Leveraged funds
Developed training programs
Articulation agreements
Industry outreach/awareness initiatives (ex. job shadowing programs for students/teachers, work-site visits, development of outreach materials such as videos, social media, etc.)
Participant enrollment in training
Support services provided
Sustainability of programs

Employer Impacts
Reduced recruitment costs (ex. shortened time to hire)
Lower training costs
Reduced turnover
Lower production costs
Greater promotion potential of entry employees
Higher quality customer service
Employer satisfaction
Worker Impacts
Increased earnings
Increased hours worked
Increased # receiving industry-recognized credential(s)
Increased # placed in employment in training-related field
Greater access to employee benefits, such as health care and leave
Improved job retention
Enrollment in next pathway step
Participant satisfaction